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AMSAT NEWS SERVICE
ANS-179

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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AMSAT News Service Bulletin 179.01
 >From AMSAT HQ KENSINGTON, MD.
DATE June 28, 2015
To All RADIO AMATEURS
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## AMSAT Field Day on the Satellites

It’s that time of year again; summer and Field Day!  Each year the American Radio Relay League (ARRL) sponsors Field Day as a “picnic, a campout, practice for emergencies, an informal contest and, most of all, FUN!”.  The event takes place during a 24-hour period on the fourth weekend of June.  For 2015 the event takes place during a 27-hour period from 1800 UTC on Saturday June 27, 2015 through 2100 UTC on Sunday June 28, 2015. Those who set up prior to 1800 UTC on June 28 can operate only 24 hours.  The Radio Amateur Satellite Corporation (AMSAT) promotes its own version of Field Day for operation via the

amateur satellites, held concurrently with the ARRL event.

If you are considering ONLY the FM voice satellite SaudiSat-Oscar-50 for your
AMSAT Field Day focus … don't … unless you are simply hoping to make one contact for the ARRL rules bonus points. The congestion on FM LEO satellites was so intense in prior years that we must continue to limit their use to one-
QSO-per-FM-satellite. This includes the International Space Station. You will
be allowed one QSO if the ISS is operating Voice. You will also be allowed one
digital QSO with the ISS or any other digital, non-store-and-forward, packet satellite (if operational).

Click for document:
http://www.amsat.org/wordpress/wp-content/uploads/2015/06/2015FieldDay.pdf

See:
http://www.amsat.org/?page_id=216

[ANS thanks AMSAT-NA for the above information]

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Brazilian CubeSat NanosatC-Br 1 Team Requests Reception Reports

Edson, PY2SDR requests fellow amateur satellite operators listen for a downlink signal from NanosatC-Br 1, the first Brazilian cubesat. NanosatC-Br 1 was launched on a Dnepr rocket from Dombarovsky near Yasny in 2014.

The 1U CubeSat carries an ISIS U/V transceiver with 1200 bps FM AX.25 UHF command uplink and a 9600 bps BPSK downlink on 145.865 MHz.

NanosatC-BR1, is experiencing battery issues for the last several months and it now seldom emits a beacon in CW. For some time, Paulo PV8DX, was able to detect a beacon signal when the satellite was over the Caribbean sea during daylight. But now, no more signals have been detected.

Edson would like to request assistance from hams in the northern hemisphere to see if NanosatC-BR1 is still transmitting any signals. Any help will be much appreciated.

[ANS thanks Edson, PY2SDR for the above information]

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FUNcube-1 / AO-73 Glitch and Commanded Reboot

On Sunday, June 21, there was an anomaly on FUNcube-1 that required the reboot
of the satellite's MCU (Microcontroller).

After a bus freeze, the databus watchdog did kick in as expected and rebooted
the satellite. However, we did need to command the satellite back on to

automatic mode. When we did so on the 20:00 UTC pass, it came back up in the
correct mode.

We envisage to switch back to autonomous mode either tonight or tomorrow morning local time. FUNcube is still happy and healthy. This is the 4th reboot
since launch, of which one was intentional. Thanks for your reports and concerns.

On behalf of the whole team best 73s,

Wouter Weggelaar PA3WEG
FUNcube team

FUNcube-1 (AO-73) Telemetry:
• Dashboard App
http://funcube.org.uk/working-documents/funcube-telemetry-dashboard/
• Data Warehouse Archive
http://warehouse.funcube.org.uk/
• Whole orbit data
http://warehouse.funcube.org.uk/wod.html?satelliteId=2.

[ANS thanks the FUNcube Team and AMSAT-UK for the above information]

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Kletskous Development News From the SA AMSAT Symposium

At the SA AMSAT Symposium pre-conference Engineering meeting held on Friday evening on June 19, 2015, members of the SA AMSAT CubeSat team reached some decisions about the development and launch of the South African Kletskous amateur radio satellite. During the past few years, various options and subsystems have been experimented with.

The team has now set the launch date of Kletskous at July 2017 with the first flight model to be ready by February 2016 for testing after which final integration will start. This requires that various module designs are locked down and built by October 2015. It is planned to have all the modules wired together in a breadboard configuration for testing the interoperation of the various subunits by December 2015. Some modules are at a more advanced stage than others, but in the next few months, the team expect to catch up and meet the deadline for the first breadboard test.

Frik Wolff, ZS6FZ, the League's technical manager, has joined the team and is working on solar panels and stabilization issues. Francois Oberholzer, an honors student at Stellenbosch University, is working on improving the weight/strength relationship of the space frame, a project that is part of his thesis. Nico van Rensburg, ZS6QL, as programme manager and the person responsible for documentation, will support the project manager, Hannes Coetzee, ZS6BZP.

There are many opportunities for radio amateurs to join the engineering team. If you have a particular expertise or passion to add value to the KLETSKOUS project, please discuss your participation with Hannes Coetzee or any of the team members and send your details to saamsat(a)intekom.co,za.

The SA AMSAT website is at:
http//www.amsatsa.org.za/

See SARL

http://www.sarl.org.za/

KLETSkous
http://www.amsatsa.org.za/KLETSkous.htm

[ANS thanks AMSAT-UK and the SARL weekly news in English 2015-6-20 for the above information]

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North Texas Moon Day Event Annouced

A great opportunity to showcase Amateur Radio and especially Amateur Radio in space to the general public will be held on Saturday, July 18th at the Frontiers of Flight Museum in Dallas, TX. In commutation of the anniversary of the Apollo 11 moon landing, the museum has celebrated "Moon Day" for the last number of years as a STEM outreach specializing in astronomy, space science and space flight past and future.

This year the Moon Day organizers decided to theme the day around the International Space Station. They applied for and were granted an ARISS scheduled contact to become part of the event. Keith Pugh, W5IU is serving as ARISS mentor for the event and is working diligently on setting up all the details of this "Telebridge" contact. The museum is sponsoring an "Ask a question of an astronaut" contest with details at
http://www.flightmuseum.com/iss-expedition-crew-43-question/
General details can be found at
http://www.flightmuseum.com/moon-day-2015/
If you know young people interested in astronomy and space science/exploration,
have them check out the links and see if they submit a question to be used during the ARISS contact. Deadline for entry is June 30th.

In years past, several of us have participated in Moon Day activities by manning an AMSAT table showing off Amateur Radio in space and even doing some on-air contacts for and with interested participants.

Keith will be very busy all morning setting up and preparing for the ARISS contact and has several individuals working with him on that. I have volunteered to help staff an AMSAT display table but need additional volunteers to assist with the table and also to be available to make Amateur Satellite contacts and demonstrations as the sats allow. Please contact Keith w5iu(a)swbell.net or myself Tom Schuessler, n5hyp(a)arrl.net to volunteer to help at least part of the day or the whole 10A-5P duration and tell us what you can "Bring to the table" as it were.

Help us to support the Museum's ARISS contact and also to put a bug in the ears of many event goers about the fun and challenge of Amateur Radio Satellites.

[ANS thanks Tom Schuessler, N5HYP for the above information]

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AMSAT Events

Information about AMSAT activities at other important events around
the country.  Examples of these events are radio club meetings where
AMSAT Area Coordinators give presentations, demonstrations of working
amateur satellites, and hamfests with an AMSAT presence (a table with
AMSAT literature and merchandise, sometimes also with presentations,
forums, and/or demonstrations).

*Thursday, 9 July 2015 – presentation for the Escondido Amateur Radio
Society in Escondido CA

*Friday and Saturday, 7-8 August 2015 – Austin Summerfest in Austin TX

*Saturday and Sunday, 22-23 August 2015 – Boxboro Hamfest and ARRL
New England Convention in Boxborough MA

*Saturday and Sunday,  5-6 September - ARRL Roanoke Division Convention
Shelby, NC Hamfest, AMSAT Forum scheduled for Saturday

*Friday, Saturday, and Sunday, October 16-18 2015, AMSAT Symposium in
Dayton OH (Dayton Crown Plaza)

[ANS thanks AMSAT-NA for the above information]

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ARISS News

Successful Contact

Universidad Tecnológica de Chile INACAP sede Temuco,  Temuco, Chile, via
telebridge W6SRJ ccontact was successful: Fri 2015-06-26 18:41:26 UTC
with ARISS Russian Team

Upcoming ARISS Contacts

Tulsa Community College, NE Campus, Tulsa, OK,  direct via WD5AGO
The ISS callsign is presently scheduled to be OR4ISS/RSØISS  or
RSØISS/OR4ISS
The scheduled astronaut is ARISS Russian Team
Contact is a go for:  Wed 2015-07-01 15:46:28 UTC

ARISS does not anticipate  any voice contacts from the ISS during this
weekend's Field Day.  But you  never know, so please listen in case they
are on
the air.  Packet will  probably be  operational.

Watch
http://www.ariss.org/upcoming-contacts.html
for information about upcoming contacts as they are scheduled.

[ANS thanks ARISS, and Charlie, AJ9N for the above information]

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Satellite Shorts From All Over

* Satellite Grid Operation in Progress

GRID SQUARES TO BE ACTIVATED (Satellite Op). Ron, N8RO, announced that he will be on a road trip during the period June 22nd and July 4th. He plans to operate portable from EM50, EM84, EM99, FN13, FM28, FM04, EL79, EL49 and possibly other grids along the way. Ron will operate on SO-50 and FO-29.

{ANS thanks the DX Newsletter - DXNL 1942 - June 24, 2015 for the above information]

* Inventors hope to launch 'backyard satellites' to fill gap in Australian space exploration

Stuart McAndrew is making history from a backyard shed in suburban Perth.
The IT worker is building a satellite capable of being launched into space and
taking pictures of Earth.
Australia is the only OECD nation without a dedicated space agency, and Mr McAndrew is one of a growing number of Australians turning to homemade space exploration to fill the gap.
He has designed the satellite PocketQube, a Rubik's cube-sized box with antennas, solar panels and electronics.
It is made from mostly off-the-shelf items, including aluminium from the local
hardware shop, a tape measure and electronics bought over the internet.
Mr McAndrew believes it is the first of its kind in Australia. He has been working on the project for two years.

"Australia has been lagging behind in recent times," he said. "We were one of
the first countries to send an amateur satellite to space and then we dropped
the ball.
"The PocketQube gives us an opportunity to set that straight and it (will) hopefully inspire other people to continue on this path and build a bigger space industry for Australia."

Radical change described as 'Space 2.0'
Commercial satellites weigh hundreds or even thousands of kilograms and cost millions of dollars to launch.
In comparison, nano-satellites can be made for as little as $1,000 and weigh between one and 10 kilograms.
Mr McAndrew's creation is even smaller, weighing less than 200 grams.

But how an earth do you get it into space?
It takes a lot of planning and a very expensive taxi ride on a much larger space craft.
"The actual launch cost for a pocket cube is around $30,000," Mr McAndrew said.
"That's a bit out of my reach so I'm looking to crowd source funding to help me get my satellite into space."
About 80 nano-satellites were launched in 2013, while 132 went up in 2014.
It is estimated a further 500 will be in orbit by the end of this year.

The University of NSW is sending its own small satellites into space as part of a global project.
Andrew Dempster, head of the university's Australian Centre for Space Engineering Research, said the industry was going through a period of "radical
change".
"Cubesats are creating this idea that people describe as Space 2.0," he said.

"People like Stuart or universities like us can get relatively easy
access to
space and it means you can develop space capability without a space agency."

Mr Dempster said Australia's lack of a space program was concerning.
"For many years we've been receiving some of our data for free – we get our
our weather data from Japan; some of our remote sensing data we get from
Europe
and the US," he said.
"The problem is that's going to come to an end.
"Budgets are being restricted around the world; NASA's budget in
particular is
declining.
"So someone needs to be asking the question: what happens next?
"We're going to be left with our trousers down if we don't have a way of
providing the data we've become addicted to."

Inventors hope to 'unlock access to space'
Mr Dempster is hoping the rise of nano-satellites will encourage young
Australians to study science, technology, engineering and maths subjects and
put space on the agenda for a new generation.
"If you want to get young kids into science and so on, the things that do it
for them are dinosaurs and space," he said.
"The emergence of cubesats mean we can have our students working on
something
that will actually be launched into space, which attracts good quality
students
and very motivated people."

The expense and logistics of launching small satellites into space remains a
key problem.
An Australian organisation called the Delta-V Space Hub was formed last year
to solve it.
Tim Parsons is the head of Delta-V.
"There's no dedicated launcher for small spacecraft so typically we have to
piggyback off larger space launchers," he said.
"That means you have to deliver your spacecraft up to a year before the
launch
and hope it doesn't go brown on the pad.
"Those are the biggest limitations right now: the frequency of launch
opportunities and how much time you need to get everything prepared."
Delta-V is working with the NSW Government, universities and start-up
companies to help people develop ideas and get their inventions into space.
"Our first step is really just to fly an aircraft that other people can put
(their satellites) onto, so essentially a rideshare model," he said.
"By doing that first model we will essentially unlock access to space."

Call to lower cost for launch certificate
For Mr McAndrew, the backyard inventor, there are still a few barriers to
overcome. He must first test his satellite before obtaining a launch
certificate from the Australian Government, which costs $10,000.
The fee is reduced to just $100 for educational and scientific institutions.
Mr McAndrew wants the Commonwealth to ease those financial requirements in
recognition of the industry's potential.
He is still hopeful of securing a place for his satellite onboard an Italian
spacecraft set to launch late next year.

"Space has always been seen as this pinnacle of engineering and it's not
necessarily the case," he said.
"I can't wait for the day when I see the rocket launch into space with my
satellite on board."

http://www.abc.net.au/news/2015-06-22/backyard-satellite-fills-australian-
space-research-hole/6563614

[ANS thanks Australian Broadcast Co. News  for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
Joe Spier, K6WAO
k6wao at amsat dot org